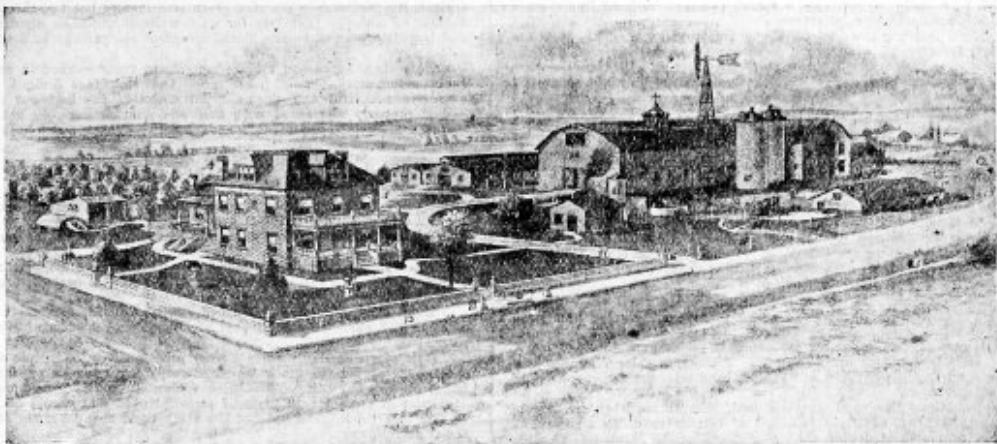


THE AGE OF CONCRETE.



Modern Farm Construction Showing the Wonderful Possibilities of Concrete, the Building Material of the Present and the Future.

- | | | | |
|-----------------------------------|-----------------------------|-----------------------------------|---------------------------------------|
| 1 Concrete Block Residence. | 10 Concrete Corner Posts. | 19 Concrete Milk and Feed House. | 28 Concrete Brick Horse Stables. |
| 2 Concrete Window-caps and Sills. | 11 Concrete Hitching Posts. | 20 Concrete Watering Tank. | 29 Concrete Brick Sheep Sheds. |
| 3 Concrete Cellar-way. | 12 Concrete Retaining Wall. | 21 Concrete Water Storage Tank. | 30 Concrete Smoke House. |
| 4 Concrete Chimneys. | 13 Concrete Sidewalks. | 22 Concrete Feeding Floor. | 31 Concrete Root Cellar. |
| 5 Concrete Porch Columns. | 14 Concrete Curb. | 23 Concrete Hog House. | 32 Concrete Garage. |
| 6 Concrete Porch Rails. | 15 Concrete Stepping Block. | 24 Corn Crib with Concrete Piers. | 33 Concrete Foundation for Wind Mill. |
| 7 Concrete Porch Piers. | 16 Concrete Gate Posts. | 25 Concrete Silos. | 34 Concrete Drainage Tile. |
| 8 Concrete Porch Balusters. | 17 Concrete Fence Posts. | 26 Concrete Block Barn. | |
| 9 Concrete Lawn Vase. | 18 Concrete Culvert. | 27 Concrete Driveways. | |

CONCRETE MACHINERY.

On the following pages we offer a line of machines and moulds which we consider unequalled for use by the farmer, builder or contractor. Though simple in construction and operation, and very low in price, all of our machines and moulds are constructed strongly and carefully, and will do clean-cut, speedy and accurate work if directions are followed, and if the proper care is used in mixing the concrete and in curing the finished product. All parts are accurately made and interchangeable. The machines are compactly built, easily portable, and without superfluous weight—a great saving in freight to the purchaser. Our line should appeal especially to the farmer and small building contractor, for our moderate priced machines will soon pay for themselves, in the saving effected in making at home such articles as building blocks, well curbing and silo blocks, drain tiles, fence posts, chimneys, gate posts, porch columns, etc.

GUARANTY.

Our machines and moulds are warranted against flaws or defects of any kind, in material or construction, for one year from the date of purchase, and defective parts will be replaced free of charge, and freight paid. Our machines are not sold on approval, but are guaranteed to do satisfactory work if directions accompanying them are followed.

GENERAL INFORMATION.

WHAT IS "CONCRETE"?

Concrete—a manufactured stone—is made by mixing together Portland cement, sand and crushed stone (or gravel) in various proportions. About half an hour after mixing the mass begins to stiffen, until, in from half-a-day to a day, it becomes so hard that it cannot be easily deformed. By a month the mass is hard like stone—indeed, harder than most stones.

As a building material its use is highly recommended. It is fire proof, frost proof, wind proof, heat proof and vermin proof; cooler in the summer, warmer in the winter; attractive in appearance, when variety and taste is used in the structure, and a desirable all around material not affected by the ravages of time.

PORTLAND CEMENT.

Portland cement is manufactured from a mixture of two materials, a rock like limestone, or a softer chalky rock, which is nearly pure lime, and another material like shale, which is a hardened clay, or else clay itself.

A paper or cloth bag of cement weighs 95 pounds, and four such bags make a barrel of 380 pounds.

It is important that cement be kept in a dry place. Once wet, it becomes hard and lumpy, and in such condition is useless. If, however, the lumps are caused by pressure in the store house, the cement may be used with safety. Lumps thus formed can be easily broken by a blow from the back of a shovel.

SAND.

The best sand is such as will pass through a screen $\frac{1}{4}$ inch mesh and is retained in screen having mesh 1-64 of an inch. This applies to river sand, bank sand, or screenings from a stone crusher.

It is best not to use fine sand. If there is a large quantity of fine sand handy, obtain a coarse sand and mix the two together in equal parts.

Sometimes fine sand must be used, because no other can be obtained; then an additional amount of cement must be used—sometimes as much as double the amount ordinarily required. For example, in such a case, instead of using a concrete 1 part cement, 2 parts sand, and 4 parts stone, use a concrete 1 part cement, 1 part sand, and 2 parts stone.

Besides being coarse, the sand should be clean, i. e., free from clay or vegetable matter.

GRAVEL OR "AGGREGATE."

Gravel or broken stone forms the largest part of the mass of a good concrete, and is called the aggregate.

Gravel obtained either from a bank or river, should be of such size as is retained in a screen having $\frac{1}{4}$ inch mesh, or such stone from a crusher as is retained in a $\frac{1}{4}$ inch screen and will pass a $\frac{1}{8}$ inch mesh. Do not use soft or rotten stone.

With gravel the danger is apt to lie in the grains being coated with clay or vegetable matter which prevents the cement from sticking to them, and hence a very weak concrete results. Dirty gravel should be thoroughly washed.

WATER.

The water used for concrete must be clean. It should not be taken from a stream or pond into which any waste from chemical mills, material from barns, or manure, or other refuse, is dumped. If the water runs through alkali soil or contains vegetable matter it is best to make up a block of concrete, using this water, and see whether the cement sets properly. Do not use sea water.

PROPORTIONS.

Concrete is composed of a certain amount or proportion of cement, a larger amount of sand, and a still larger amount of stone. The proportions for a mix of concrete given, for instance, one part of cement to two parts of sand to three parts of stone or gravel, are written 1:2:3 and this means that one cubic foot of packed cement is to be mixed with two cubic feet of sand and with three cubic feet of loose stone.

A theoretically correct concrete should consist of sand and gravel, and an amount of cement equal to the voids in such combination. In other words, interstices should be filled with cement.

The proper selection of sand and aggregate material is important. Care should be taken that the particles vary so in size as to reduce the voids to the smallest amount possible. With this careful selection the amount of cement required to produce good work is greatly reduced.

MIXING.

After the materials are selected they should be mixed together dry, until the mass is of an absolutely uniform color. Water should then be applied, and the thorough mixing repeated. The amount of water should be in all cases as great as possible without causing the materials to stick to the molds when the stone is removed.

Only such size batches should be mixed at one time as can be used up within thirty minutes from the time the water has been added.

COLORING.

In using coloring matter with concrete, the color should always be mixed with the cement dry, before any sand or water is added. This mixing should be thorough, so that the mixture is uniform in color. After this mixing the combination is treated in the same way as clear cement.

CONCRETE BLOCK WALLS.

Concrete block walls have found general favor because of their pleasing appearance, economy in construction, and also for the reason that the blocks may be made at odd times. Walls of this type can be made in a variety of face designs and colors, without the use of forms. Hollow block walls of a given size require but two-thirds the amount of material necessary for solid walls of the same dimensions, and the air spaces in hollow blocks interrupt the passage of heat and cold.

The plainer faces and ashlar designs are recommended in preference to the more common rock face. Our rock face designs, however, are beautiful and clean-cut imitations of the best cut stone, and if properly alternated with half and quarter sizes, do not present the artificial appearance found objectionable on many rock-face walls.

MIXTURES FOR BUILDING BLOCKS.

When mixed sand and gravel are used: 1 part of cement to 3 parts of coarse sand and gravel.

When sand and gravel are used, 1:2:3; that is 1 part of cement, 2 parts of sand and 3 parts of gravel.

When sand and crushed stone are used, 1:2:1:2: 1 part of cement, 3 parts of sand and 2 parts of crushed stone.

When sand, gravel and crushed stone are used, 1:2:1:2: that is, 1 part of cement, 2 parts of sand, 1 part of gravel, 2 parts of crushed stone.

When sand, cinders and crushed stone are used, 1:2:1:2: 1 part of cement, 2 parts of sand, 1 part of cinders and 2 parts of crushed stone.

It is often desirable when a very nice finish is desired to use a special facing for the block which not only increases its appearance but decreases the cost. When such facing is used it should consist of 1 part of cement to 2 parts of screened sand and should be from $\frac{1}{2}$ to 1 inch thick. The body of the block could then be made of material as follows:

When sand and gravel are used, 1:2:3: 1 part of cement, 2 parts of sand, 3 parts of gravel.

When sand and crushed stone are used, 1:2:2: 1 part of cement, 2 parts of sand and 2 parts of crushed stone.

When sand, gravel and crushed stone are used, 1:2:1:2: 1 part of cement, 2 parts of sand, 1 part of gravel, 2 parts of crushed stone.

When sand, cinders and crushed stone are used, 1:2:1:2: 1 part of cement, 2 parts of sand, 1 part of cinders, 2 parts of crushed stone.

The above proportions are standard and when the cement is properly mixed, you will secure blocks of the very highest compressive quality, being able to withstand from 600 lbs. to 2,000 lbs. compressive pressure per sq. in. from 7 days to 6 months old.

COST OF BLOCKS.

The material necessary to produce 1 cubic yard of mixture is approximately 1.54 bbls. of cement, 0.47 cub. yard of sand, and 0.73 cub. yard of gravel, being sufficient for 63 blocks.

For manufacturing 100 blocks there is needed—2.24 bbls. cement, 0.65 cub. yard (4.93 barrels) sand, and 1.06 cub. yard (7.68 barrels) gravel; which, at the following prices, will amount to—

2.24 bbls. of best Portland Cement at \$2.25 per bbl....	\$5.05
0.65 cub. yard of Sand " 1.25 " cub. yd.85
1.06 cub. yard of Gravel " 1.50 " " " 1.59	1.59

Cost of material for 100 blocks of 8x8x16 inch.... \$7.49

The labor cost will vary with the grade of machine used, and the number, skill and speed of the workmen. 8x8x16 inch blocks, however, made in reasonable quantities, should cost complete, not far from 10 cents each.

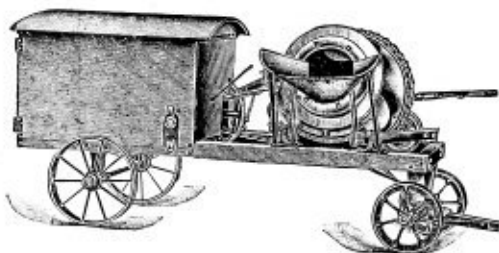
TO FIND THE NUMBER OF BLOCKS REQUIRED FOR A HOUSE OF ANY DIMENSIONS.

Find the number of feet around the walls, multiply by three and divide by four. This will give approximately the number required for one course (not taking window or door openings into account). The height of wall in inches, divided by eight, gives the number of the courses, which, when multiplied by the number in one course, gives the number of blocks for the whole building. For example: A building 30 feet square would be figured as follows: 30 by 30 equals 120 feet around, times 3, divided by 4, equals 90 blocks in one course, 240 inches high, divided by 8, equals 30 courses. 30 times 90 equals 2,700 blocks.

NUMBER OF 8x8x16 IN. CONCRETE BLOCKS NECESSARY PER LINEAR FOOT OF WALL.

Height of Wall	Number of Blocks per Linear Ft.	Height of Wall	Number of Blocks per Linear Ft.	Height of Wall	Number of Blocks per Linear Ft.
2 ft. 0 in.	2.25	6 ft. 0 in.	6.75	9 ft. 4 in.	10.50
2 ft. 8 in.	3.00	6 ft. 8 in.	7.50	10 ft. 0 in.	11.25
3 ft. 4 in.	3.75	7 ft. 4 in.	8.25	10 ft. 8 in.	12.00
4 ft. 0 in.	4.50	8 ft. 0 in.	9.00	11 ft. 4 in.	12.75
4 ft. 8 in.	5.25	8 ft. 8 in.	9.75	12 ft. 0 in.	13.50
5 ft. 4 in.	6.00				

NORTHWESTERN CONE BATCH MIXERS.



The Northwestern Cone Batch Mixer combines four principles which are most in demand by contractors, through long usage and practicability. First, the conical type—second, the long cylinder—third, the closed discharge end, and fourth, the low open charging end. These principles insure speed, control of mixed materials, convenience in loading and unloading, easy access for cleaning, adjustability of paddles, and correct mix of the materials.

Drum—The drum is a tapered high carbon steel plate cylinder with conical ends, made of heavy steel castings, having wide bearings and carried on four chilled semi-steel cast rollers. The drum is driven by a standard link chain on the large end. The sprocket is cast integral with the drum end. The ends are held together by means of six heavy rods.

Discharge Door—This is a new patented device, controlled by a lever within the reach of operator and free from all danger. This door permits dumping of a pailful or a full load, as desired. The entire mix can be unloaded in approximately three revolutions of the drum. The material is carried to the door by means of a chute on the inside of drum, so shaped that it will aid in mixing when door is closed.

Charging End—This end is set low, and has a large opening, from 16 in. to 24 in., depending on the size of the machine. It permits three or four men to throw material directly into the machine, also permits dumping from wheelbarrows without any delay. When wheelbarrows are used a standard hopper is necessary.

Paddles—The paddles are made of steel plate and securely fastened to the rods holding the two ends together. These paddles are separated from the shell, preventing any lodging of material in pockets, and making the machine easy to clean. The paddles carry the material forward and up, dropping the mixture in a sort of spray. The chute throws the mixture back towards the charging end, creating a "whirlpool" mix.

Frame—The frame is made entirely of steel, riveted and braced, maintaining perfect alignment and insuring long life. The frame is mounted on heavy truck wheels and axles, the faces of the wheels are amply wide to carry the full load.

Chain Drive—The Northwestern Cone Mixer is driven by a chain belt, of standard type, easily replaced and very inexpensive.

Lubrication—All bearings and journals are lubricated through hard oil cups and are so arranged as to force the hard oil to the spot needed.

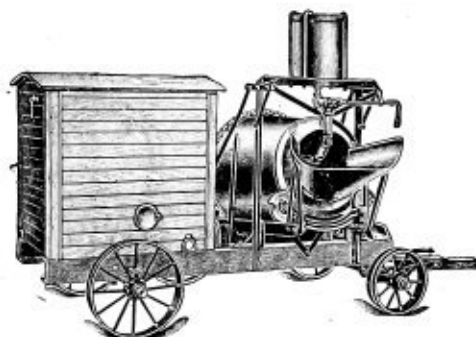
Power—The No. 105TE—Housed—Mixer, shown above, is equipped with a four cycle, hopper cooled, jump spark ignition, $2\frac{1}{2}$ horse power engine, giving ample power to handle the full load. The engine is thoroughly reliable.

Capacity—The mixer shown is a 5 ft. size, that is, it will mix thoroughly five feet of mixed material at each batch, or six feet of loose material. This machine will mix as much material as the so-called six and seven feet machines of other makes. The shape of drum gives added capacity and prevents slopping.

Portability—This machine is easily handled by two or three men and can be moved about the job without the use of a team of horses. The Northwestern Cone is furnished in one standard type with housing for engine, standard hopper for wheelbarrow and hand pole. A water tank is not needed with this machine, as water is thrown into the machine through the large open end.

No. 105—Cone Mixer on skids with pulley,	
each★	ADDEJ \$257.50
No. 105E—Cone Mixer on skids with engine,	
each★	BEEIJ 426.50
No. 105T—Cone Mixer on trucks with pulley,	
each★	AGGFJ 296.00
No. 105TE—Cone Mixer on trucks with engine,	
each★	BGICJ 465.50
No. 105½—Wood Housing for above★.....each	AEIJ 26.50

NORTHWESTERN CONE BATCH MIXERS.



The Northwestern Cone Mixer shown on this page is the standard No. 107TE equipped with gasoline engine, automatic water tank and wood housing. This type is furnished in three sizes and with equipment as listed below.

Construction—This machine is the same style as the No. 105, except that it is much heavier in construction throughout. The shape of the drum, discharge door, the charging end, the paddle arrangement, the frame and mountings are of the same general design.

Equipment—Nos. 107, 110 and 120 can be furnished with side loader, batch hopper, either gasoline or steam engine, water tank, and wood or steel housing.

SMALL SIZE, Capacity 8 Cubic Feet Unmixed, 6 Cubic Feet Mixed Material.

- No. 107—Cone mixer, on skids, with pulley, no engine, w't each 1,560 lbs.★each BEFEJ \$427.50
 No. 107E—Cone mixer, on skids, with 4 H. P. gasoline engine, w't each 2,240 lbs.★each CEAJJ \$585.00
 No. 107T—Cone mixer, on trucks, with pulley, no engine, w't each 2,035 lbs.★each BGJJ \$465.00
 No. 107TE—Cone mixer, on trucks, with 4 H. P. gasoline engine, w't each 2,715 lbs.★each CFJJ \$615.00
 No. 7WH—Wood housing for engine, w't each 151 lbs., extra★each AJHJ \$18.00
 No. 7SH—Steel housing for engine, w't each 197 lbs., extra, each★each BGJJ \$45.00
 No. 7WT—Automatic water tank with frame, w't each 107 lbs., extra★each BGJJ \$45.00
 No. 7SL—Side loading attachment with double hoists, w't each 636 lbs., extra★each AAEJ \$187.50
 No. 7BH—Batch hopper, w't each 165 lbs., extra, each★each EDJJ \$90.00

MEDIUM SIZE, Capacity 12 Cubic Feet Unmixed, 9 Cubic Feet Mixed Material.

- No. 110—Cone mixer, on skids, with pulley, no engine, w't each 2,070 lbs.★each CJAEJ \$502.50
 No. 110E—Cone mixer, on skids, with 5 H. P. gasoline engine, w't each 3,570 lbs.★each DFHJJ \$780.00
 No. 110S—Cone mixer, on skids, with 4 H. P. steam engine, w't each 4,165 lbs.★each DEIJJ \$765.00

- No. 110T—Cone mixer, on trucks, with pulley, no engine, w't each 2,370 lbs.★each CBHJJ \$547.50
 No. 110TE—Cone mixer, on trucks, with 5 H. P. gasoline engine, w't each 3,890 lbs.★each DIEJJ \$825.00
 No. 110TS—Cone mixer, on trucks, with 4 H. P. steam engine, w't each 4,465 lbs.★each DHFJJ \$810.00
 No. 10WH—Wood housing for engine, w't each 232 lbs., extra, each★each ACEJ \$22.50
 No. 10SH—Steel housing for engine, w't each 250 lbs., extra, each★each CFJJ \$60.00
 No. 10WT—Automatic water tank, with frame, w't each 110 lbs., extra★each CFJJ \$60.00
 No. 10SL—Side loading attachment with double hoists, w't each 656 lbs., extra★each ACEJJ \$225.00
 No. 10BH—Batch hopper, w't each 190 lbs., extra, each★each EHEJ \$97.50

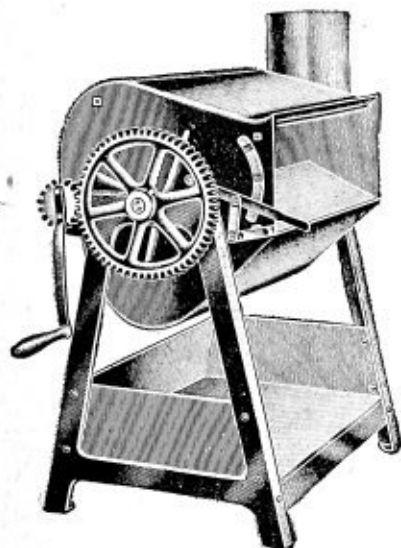
LARGE SIZE, Capacity 24 Cubic Feet Unmixed, 15 Cubic Feet Mixed Material.

- No. 120—Cone mixer, on skids, with pulley, no engine, w't each 3,030 lbs.★each DCBJJ \$720.00
 No. 120E—Cone mixer, on skids, with 8 H. P. gasoline engine, w't each 3,700 lbs.★each JGFIEJJ \$1,282.50
 No. 120S—Cone mixer, on skids, with 6 H. P. steam engine, w't each 6,400 lbs.★each JGJBJJ \$1,170.00
 No. 120T—Cone mixer, on trucks, with pulley, no engine, w't each 3,375 lbs.★each DIJEJ \$817.50
 No. 120TE—Cone mixer, on trucks, with 8 H. P. gasoline engine, w't each 5,050 lbs.★each JHCBEJJ \$1,387.50
 No. 120TS—Cone mixer, on trucks, with 6 H. P. steam engine, w't each 6,750 lbs.★each JGFEJJ \$1,275.00
 No. 20WH—Wood housing for engine, w't each 300 lbs., extra, each★each AHJJ \$30.00
 No. 20SH—Steel housing for engine, w't each 360 lbs., extra, each★each DEJJ \$75.00
 No. 20WT—Automatic water tank with frame, w't each 120 lbs., extra★each DEJJ \$75.00
 No. 20SL—Side loading attachment, with double hoists, w't each 853 lbs., extra★each ADHEJ \$247.50
 No. 20BH—Batch hopper, w't each 250 lbs., extra, each★each JGBJJ \$120.00

SPECIAL CATALOGUE—We will mail upon application, a special factory catalogue, showing detailed description of the above Mixers and Attachments.

NORTHWESTERN TRIANGULAR CONCRETE MIXERS.

HAND MIXER.



Principle—Triangular type with automatic door. In every turn of the drum, three complete mixings take place. The material is carried up well onto one side and then thrown in a shower over the contents in the bottom of the drum.

Time Required to Mix One Batch—From one to two minutes will thoroughly mix up a batch of concrete. The quality of the mix as well as the saving of time and labor will soon offset the cost of either machine.

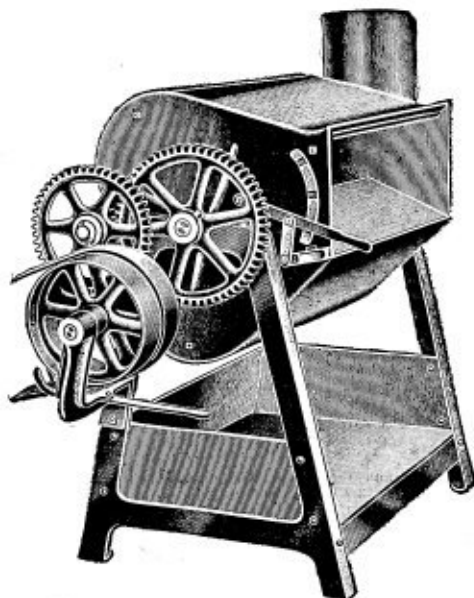
Operation—The cement and sand or gravel is placed into the machine, the cover locked, and the machine revolved about 18 times. This will require about one minute's time. The water is then turned on and the drum revolved until the mixture is of the proper moisture. The cover is then unlocked and the drum turned over once or twice which will thoroughly empty it. It is a good rule to continue mixing until an even color is obtained. In this way porosity

is greatly reduced and the question of waterproofing in a measure is solved.

Cleaning—Any mixer should be washed out with water at the end of each day's work, else the concrete will stick and harden. With these mixers, water can easily be thrown in, and a few turns of the drum will thoroughly flush the interior.

Description—The mixer consists of frame, drum, gearing, water tank and wetting device. Length of drum 34½ in., circumference, 84 in., diameter 26 in., height over all 4 ft. 2 in., length over all 4 ft. 8 in., capacity 4 to 5 cu. ft., capacity of hopper bottom, two batches, speed 18 revolutions per minute. Frames are heavy iron castings with steel hopper at the bottom to hold the mix after it is dumped from the drum. The drum is made entirely of steel and is triangular shape with rounded corners. The shell is made of 14 gauge cold rolled steel and fits into grooves in either drum

POWER MIXER.



head. The drum heads are made of heavy castings and grooved on the inside. The drum head and shell are held together by three rods running entire length of the drum which also serve as an elevating device to carry the material well up on the side before it drops. The left hand drum head has a cold rolled steel journal chilled to the center, which turns in a solid box on the frame and the gear wheels are fastened to this journal. The right drum head is a cast journal and is perforated to permit a pipe to run through it. The wetting device consists of a water tank, which is fastened to a stand on a 5 gallon frame. Connected with this tank is a half inch pipe which runs through the journal and extends clear across center of the inside drum head. This pipe is perforated and the water is regulated by a half inch globe valve. This method evenly distributes the water through the drum and evenness of moisture assured.

No. 3-HM—Hand power mixer, complete with crank handle and driving gear at each end, so one or two men can turn, the power is produced by a four-to-one set of gear wheels with a 30 in. sweep of the crank, w't each 550 lbs., each★ EDJJ \$90.00.

No. 21-PM—Belt power mixer, complete, power is transmitted through a 12x3 in. iron pulley, also equipped with loose pulley for throwing off the power at any place for emptying, requires about a 3 horse power engine to operate with full capacity, w't each 600 lbs.★ each JFABJ \$102.00

In ordering belt power mixers state what size pulley is wanted or the number of revolutions per minute of the engine and size of engine pulley.

★FOR FACTORY SHIPMENT ONLY.

CONCRETE FENCE POST MACHINES.

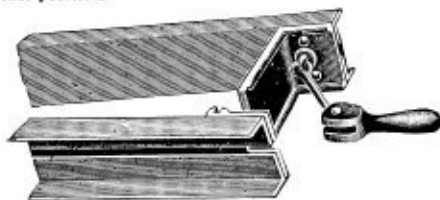


The Corrugated Fence Post Machine will answer all requirements of a low-priced, non-adjustable machine making tapered posts with corrugations two-thirds of the distance from the top. It is a machine which will stand plenty of hard knocks and will produce a post unusually attractive in design and strength.

Construction—Made with heavy corrugated sheet iron sides reinforced at the edges with 1 in. angle iron. The head is a plain piece of steel which slips into grooves and the machine is held together at the head by two eye bolts.

The foot consists of a plain piece of steel bolted to one side of the mould. An eccentric or cam lever slips into a groove on the opposite side and when pressed down will hold the mould solid and firm and no amount of tamping will loosen it.

Operation—The operation is very simple. Tamp in the material, level off the top, open the mould by drawing back the cam lever, swing the sides outward and remove to another position.



Detail of Fastening.

Sizes—The mould is not adjustable, but is made in all sizes suitable for lawn fence posts, field fence posts, stock fences, corner posts, etc.

Capacity—The capacity is from one to two hundred posts a day, varying according to the size and the number of men operating it.

Cost of Post—The cost of a post as figured by the United States Department of Agriculture, averages about 15c each, figuring on a mixture of 1:2½:5 and a post 4x6 at the bottom and 3x3 at the top.

One cubic yard of concrete will make twenty posts.

The comparative cost of a good cedar post, is from twenty to thirty cents.

Reinforcing—In this mould, as well as in the adjustable mould, the reinforcing is easy to accomplish. Use four strands of No. 9, twisted galvanized wire, placed in the mould in each corner and about one inch from the surface—this forms all of the reinforcing necessary.

Shape—This mould is of the tapering type and makes a very handsome post. The advantage is that it gives the strength and body to the post near the ground where there is the most strain if animals rub against it. It also prevents heaving of the post in heavy clay soils and once these posts are set they will last indefinitely.

Poured or Tamped Type—With either of our post machines either wet or semi-wet material may be used. We recommend the use of a semi-wet material, just wet enough so that it will not fall down when the mould is removed.

Curing—The method of curing of posts is exactly similar to that of blocks or any other form of concrete. The material should be well mixed, broken stone or gravel being not over ½ inch in size, and sand and gravel well mixed dry before adding the water. The posts should not be disturbed for a number of days and when left out of doors should be covered with straw, burlap or other similar covering, and should be sprinkled once or twice a day for at least fifteen days. Bevel or triangular shaped blocks can be secured by use of wooden moulding placed in the machine.

	Length	Top	Bottom	Corrugated	Weight	Each
No. 311-CF—Lawn fence size	6 ft.	3½x3½	3½x3½	4 ft.	50 lbs.★	JGAJ \$11.82
No. 312-CF—Field fence size	7 ft.	3½x3½	3½x3½	4½ ft.	65 lbs.★	JGEJ 12.54
No. 313-CF—Large field fence size	7 ft.	4½x4½	4½x4½	4½ ft.	80 lbs.★	JGIJ 13.20
No. 314-CF—Stock fence size	8 ft.	4½x4½	4½x4½	5 ft.	90 lbs.★	JHGJ 14.52
No. 315-CF—Corner post size	8 ft.	8 x 8	8 x 8	5 ft.	125 lbs.★	AAAJ 18.48

Note—The Large Field Fence Post is sold in preference to other sizes because of the all around use to which it can be put.

★FOR FACTORY SHIPMENT ONLY.

ADJUSTABLE CONCRETE FENCE POST MACHINES.



Moves Like a Wheelbarrow.



Showing Roller Bearing Front and Method of Adjustment.



Notice the handles for Moving and the Latch for Locking. Adjusted by Means of Screw Bolts.

Construction—Made of best gray iron, sides are $\frac{1}{4}$ in. reinforced with 1 in. angle iron and are fastened to the head by means of bolts which also act as hinges to allow spreading of the mould when removing. Mould is locked by means of a latch. Handles and wheel head are heavy castings.

Adjustment—This machine is adjustable both as to length and width. It is possible to make either straight or tapered posts in any length up to 8 ft. The adjustment at the top is by means

of two bolts which are easily and quickly moved to another position. Posts can be made $\frac{3}{4}$ to $\frac{1}{2}$ in. wide at the top.

The adjustment at the bottom is by means of a screw bolt, the width is changeable at the bottom to any size from $\frac{5}{8}$ to 7 in.

The thickness of the mould is 4 in.

Adjustment for length is by means of stopoff plates which can be unbolted and moved for any desired length.

Outfit—With each machine we furnish tamper, end block and center clamp.

Instructions—We furnish with each machine a book of instructions which will tell what mixture to use for posts, how to mix concrete and various other information which will enable anyone to make good concrete and fine looking posts at minimum cost.

Special Top—The top of the post is formed by a wooden block, sample of which is furnished with each machine. These tops may be round, square, oval, pointed or any desired shape. Anyone can make these tops as it requires no skill whatever to make them.

No. 301-AP—One man adjustable fence post machine, complete, w't 137 lbs. ★	each JHEJ \$14.16
No. 301½-AP—Extra tampers, 4x½ in. head, 4x1 in. wedge end, w't 10 lbs. ★	each ADJ 2.30

Making Fence Posts.

A good mixture is 1 part of cement, 2 parts of sand and 4 parts of gravel and the post can be either poured or tamped, but the tamped post is equal in every way to the poured posts, and a great many more can be made in a day when tamped. The machine is simply laid on the floor and the material tamped into the mould. To release the mould, a small hook is raised. It is spread apart a little, pushed forward on the wheel like a barrow a short distance, tilted over and brought back into position for another post. It is the simplest and easiest operated post machine made.

Reinforcing Posts.

The placing of reinforcing is an easy matter. About an inch of concrete is tamped into the machine then No. 9 twisted wire or bars, angle iron or any other material placed lengthwise in the center or on both sides and the remainder of the post filled, tamped in the regular way. When wire is used it is advisable to place two twisted strands in each of the four corners about 1 in. from each corner. No pallets are necessary as the posts can be made on any smooth floor.

Attaching Fence Wires to Post.

The wire is fastened to the post either by looping a short wire around the post and attaching to the main wire, or by any of the devices used for such purposes—namely, galvanized staples placed in the material when tamped, by making holes in the post, making corrugations on one side by means of corrugated sheets or moulding placed on the inside before tamping. The method most commonly used is by looping a short wire around the post and fastening to the main wire at both sides of the post. This is called the Western Union Loop.—See cut.



Durability and Cheapness.

A 7 ft. post, 3 in. at the top and $\frac{5}{8}$ in. at the bottom, costs from 12 to 15 cents and readily sells for twice that amount.

There is not one objection that can be raised against concrete posts and they can be made during spare time and rainy days. In the one man mould you get the easiest moved, most durable and least expensive post machine made. Only a few years ago such things as indestructible posts were unheard of. Iron is expensive, wood rots and is destroyed by fire and worms. Concrete posts are rapidly coming into general use and today are generally adopted by the most progressive people in all sections of the country.

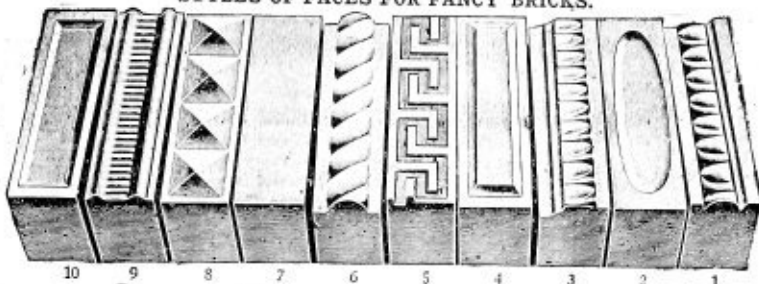
The making of concrete posts is a good business in itself or it is a profitable branch to any block making industry, or the moulds can be purchased by farmers and property owners and the posts made any time. They add beauty to any place when once set—make a solid foundation for the wire, not affected by the heaving of the ground. Fire does not affect them and weeds can be burned along the fence without any injury whatever to the posts. They also act as lightning arresters, saving valuable stock. Concrete posts will be appreciated by the man who, from year to year, has an endless task of replacing broken or rotten posts, especially in view of the fact that they can be made for about the same price as cedar posts.

★FOR FACTORY SHIPMENT ONLY.

CONCRETE BRICK MACHINES.

STYLES OF FACES FOR FANCY BRICKS.

We Can Furnish
Any of the
Following Design
Face or End
Plates for the
Brick Machine
on this Page.



ALWAYS
ORDER
BY
NUMBER.

SIX BRICK MACHINE WITHOUT FANCY PLATE ATTACHMENT.



Showing Method of Drawing Division Plates.

Construction—Heavy grey iron castings, strongly braced, built to stand the most severe handling. Consists of base, flask and lever device for withdrawing the division plates. Flask is made with polished steel division plates, which are machined into one inch castings at the back. There are grooves at the front for holding the division plates in place. The mould is locked by means of two end levers. Plain wood pallets are used which anyone can make. Sample wood pallet is furnished with each machine.

Outfit—Tampers, sample wood pallet and steel striker for leveling the top after tamping, are furnished with the six brick machine.

Capacity and Size of Brick—Standard size brick, $2\frac{1}{4} \times 4 \times 8\frac{1}{4}$ in. are made. Every brick will be uniform in size and perfect in shape, having sharp corners and edges. The capacity of six brick machine is 1500 to 1800 brick per day.

Operation—We furnish a complete book of instructions with each machine, which gives detailed information on all subjects regarding concrete. With these instructions anyone can make good concrete brick. The operation of these machines is very simple. A plain wooden pallet is placed on the bed of the machine, the mould locked by drawing the hand lever towards the operator, the end levers placed and the mould filled and tamped.

Fancy Face Plates—We illustrate above styles of the various fancy face plates which can be furnished with each machine. These face plates are dropped into the machine and the material tamped on top of them.

We do not furnish face plate attachment with this machine. When making fancy brick, it is necessary to leave them on the fancy face plate until hard enough to remove, which is about twelve hours. It is necessary with this machine to have enough fancy face plates for the number of bricks of fancy design that are to be made in one day.

Pallets—It is desirable to use lumber with cleats on the back, which prevents the board from warping and forming irregular shaped bricks.

No. 261-SB—Six brick machine complete, w't 170 lbs.★.....each \$39.00

No. 262-BOP—Fancy face plates for either machine, w't 3 lbs.★.....each .60

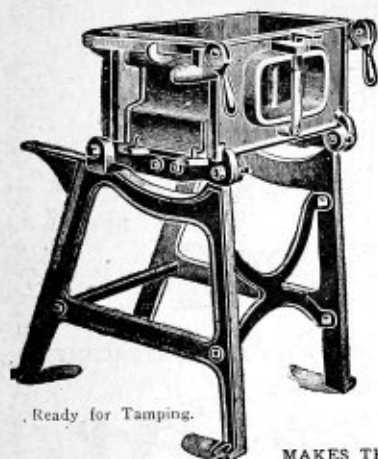
No. 263-BOP—Fancy end plates for either machine—see above—and always order by number, w't $1\frac{1}{2}$ lbs.★.....each .48

No. 263½—Extra mallet tamper, head 4x4 in., wedge end 2x4, w't 10 lbs.★.....each 1.80

Cost of Concrete Brick—The cost of making concrete brick is about \$5.50 per thousand. The comparative cost of clay brick is \$6.00 to \$8.00 per thousand and as high as \$17.00 is charged for pressed brick. Concrete has every appearance of pressed brick when made on the polished steel pallet. The profits in this line are attractive and every block-making plant should be equipped with such a machine. The making of concrete brick is so easy that they can be made anywhere, saving freight and selling for a higher price than common clay brick. They are justly popular because they are handsome in appearance, cheaper, more durable and better in every respect, becoming harder with age and being indestructible by fire, requiring no expensive firing or machinery. Clay brick chip easily, and must be handled with extreme care to avoid a large percentage of breakage. The use of concrete is endorsed by engineers and architects everywhere and is desirable in every way. Our ten brick machine will make as many bricks as any plant can take care of and will not require any expensive repairs. Masons prefer our brick because they are easy to lay and make a smooth wall. A couple of boys will make brick as fast as a mason can lay them and equipped with this machine the contractor, mason, builder or farmer is entirely independent of the brick manufacturer.

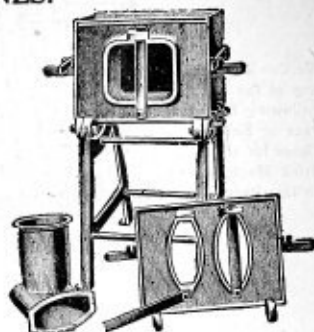
★FOR FACTORY SHIPMENT ONLY.

LEADER FACE-DOWN CONCRETE BLOCK MACHINES.



Ready for Tamping.

Makes the Blocks Face Down, Single or Double Core, Most Adjustable and Convenient, Inexpensive Block Machine Made. Makes 100 to 200 Blocks Per Day. Operated by One, Two or Three Men.



Showing Single and Double Cores.

MAKES THE FOLLOWING STYLES OF BLOCK



Principle—Blocks are made face down and removed in their natural position as they lay in the wall. By this method it is possible to use a better grade of concrete for the face of the block and coarser material for the remainder. This secures a block much more attractive in appearance and at less expense. By this method it is possible to use coloring material, securing brown, black, gray, slate, red, white and various other colors at little expense over the regular block.

Construction—Heavy gray iron, 22 inches high, base 18 in. x 23 in. Frame strongly braced to withstand jar from tamping. Face plates made of close grained castings. Machine consists of frame and flask. Flask consists of core plate, back plate, two end plates, face plate and levers to hold the flask together. All plates are fastened to the face plate, which in turn is fastened to the base by rocker bearings. The locking device consists of a lever fastened to the back plate and an eccentric lever at the end, by means of which it is possible to partially lock the mould and to adjust the end plates or pallet before fully locking.

Cores—Machine is made with either single or double core. Unless otherwise specified, we ship single core. The cores are inserted in the core plate, as shown in the illustration above. Cores are held in place by means of a lever, and are removed by hand vertically after the flask is turned.

Extra Flasks—This machine is adjustable to three different sizes. At a slight additional cost we can furnish extra flask attachments for changing machine to make blocks of another size. In this way it is not necessary to buy an entirely new machine for a change in size of blocks. Flask attachments are fully described on page 199.

Pallets—Plain wooden pallets are used. These are made by cutting common lumber to the proper size and nailing cleats on the back. Anyone can make these pallets using the sample furnished with the machine, as a pattern.

Sizes and Kinds of Blocks—The regular outfit furnished with each machine makes all of the blocks shown on page 200. On page 199 we illustrate the various attachments for this machine. Page 200A shows the large range of faces which can be made when using the various face plates.

Outfit—We furnish the following outfit free with each machine.

No. 1—One rock face plate for full size blocks.

If other than Rock Face is desired we give option of any face plate shown on page 200 or 200A, numbers 11 to 31 inclusive.

No. 2—One rock face plate for one half and two quarter size blocks.

No. 3—One interchangeable rock end plate.

No. 4—One pair core end plates.

No. 5—One pair dividing plates for fractional size blocks.

No. 6—One gable block dividing plate.

No. 7—One pair joist block attachments.

No. 8—Plugs for making solid blocks without cores.

No. 9—One striker for levelling the top of the mould.

No. 10—One double end tamper.

No. 11—One sample wood pallet on machine.

Instructions—The operation is so simple that anyone can make good blocks. On actual test 265 blocks were made in one day on this machine. We furnish complete instructions with each machine which explain in detail the operations. We also furnish a comprehensive pamphlet on the making and mixing of concrete which explains all of the processes necessary to make high grade concrete. With these instructions anyone can make concrete articles with but little experience.

For Blocks, Sizes.

For attachments see page 199.

	8x8x16 in.			8x12x16 in.			8x12x16 in.		
	No.	Wt.	lbs. Each.	No.	Wt.	lbs. Each.	No.	Wt.	lbs. Each.
*Leader Block Machine Complete★...	201	175	\$22.90	202	200	\$30.00	203	225	\$33.60
Flask Attachments, Single Core★...	204	110	12.60	205	135	13.50	206	145	16.50
Flask Attachments, Double Core★...	204D	115	12.60	205D	140	13.50	206D	150	16.50
Four inch Course Block Attachments★	207	50	12.00	208	60	13.00	209	70	14.00
Four inch Course Dividing Plates★...	2010	8	.96	2011	9	.96	2012	10	.96
Octagon Bay Window Attachments★	2013	50	6.24	2014	58	7.00	2015	66	8.00
Circle Bay Window Attachments★...	2016	35	5.40	2017	40	5.70	2018	45	6.00
Extra Face Plates, any design★...	2019	18	2.16	2019	18	2.16	2019	18	2.16
Extra End Plates, any design★...	2020	8	1.08	2021	9	1.08	2022	10	1.20
*Silo Block Attachments, Rock face★	2023	100	14.40	2024	110	15.60			
Extra Tampers, size head 3x3 in., size wedge, 3x3 in.★...	201½	5	1.50	201½	5	1.50	201½	5	1.50

*Note—Unless otherwise ordered we always ship Rock face with every machine or attachment.

†For Circular Bay Window and Silo Attachments please specify diameter.

★FOR FACTORY SHIPMENT ONLY.

CONCRETE MACHINERY.

IMPROVED FACE-DOWN BLOCK MACHINES.



Outfit.

We furnish the following outfit free with each machine.

No. 1—One rock face plate for full size blocks.

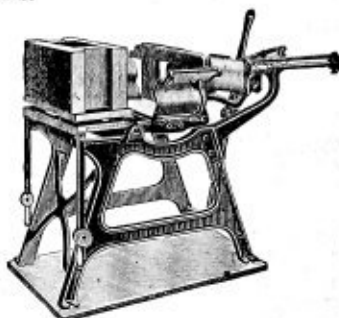
If other than rock face is desired we give option of any face plate shown on pages 200 or 200A, numbers 11 to 31, inclusive.

No. 2—One rock face plate for one half and two quarter size blocks.

No. 3—One interchangeable rock end plate.

No. 4—One pair core end plates.

No. 5—One pair dividing plates for fractional size blocks.



The plates all move away from the block.

No. 6—One gable block dividing plate.

No. 7—One pair joint block attachments.

No. 8—Plugs for making solid blocks without core.

No. 9—One striker for leveling the top of the mould.

No. 10—One double end tamper.

No. 11—One sample wood pallet.

ABOVE OUTFIT MAKES THE FOLLOWING STYLES OF BLOCKS.



The Highest Development of Horizontal Core Machine, Makes the Blocks Face Down, Perfect in Mechanical Construction, Entirely New and Original Method of Core and Block Removal, Makes 150 to 300 Blocks in a Day, Operated by One, Two or Three Men.

Construction—Heavy gray iron, 22 in. high, base 18x30 in. Frame strongly braced to withstand jar from tamping. Face plates made from close grained castings. Machine consists of frame, flask and lever device for removing the cores. Mould is locked by a lever fastened to the back plate and an eccentric lever at the end, which permits of partially locking the mould, making adjustment of the pallet easy. Core device consists of two arms fastened to the base of the machine. Two steel guides draw the cores in a true straight line from the mould by means of a hand lever. The lever works in machined ways. All cores and levers work smoothly and without jar.

Cores—Machines supplied with either single or double core. Unless otherwise specified, we ship single core.

Extra Flasks—Machine is adjustable to three different sizes. At a slight additional cost we can furnish extra flask attachments for changing machine to make blocks of another size. This avoids the necessity of purchasing an entirely new machine for a change in size of blocks. Flask attachments fully described on page 199.

Pallets—Plain wooden pallets are used. These are made by cutting common lumber to the proper size with cleats nailed on the back. Anyone can make them, using the sample furnished with the machine as a pattern.

Sizes and Kinds of Blocks—The regular outfit furnished with each machine makes all of the blocks shown on page 200. With the various attachments shown on page 199, a large range of sizes and styles of blocks can be made.

Principle—This machine has not only all of the advantages of the face-down machines, using wetter mixture, making better looking faces and using less cement, but also the advantage of cores being removed by lever, increasing efficiency of the machine at least 30 per cent. This lever centralizes the control so that all of the work can be done in one spot. The result is more and better blocks in a day. Every operation is performed at one side of the machine, including locking and unlocking the flasks, tamping, removing the cores and withdrawing the block.

Instructions—The operation of this machine is very easy and very speedy. 300 blocks a day were made on test. We furnish full directions for operation with each machine, also a complete pamphlet explaining every step necessary in the manufacture of all kinds of concrete articles. This book will save the expense incidental to mistakes.

For Block, Sizes	8x8x16 in.			8x10x16 in.			8x12x16 in.		
	No.	Wt. lbs.	Each	No.	Wt. lbs.	Each	No.	Wt. lbs.	Each
*Improved Block Machine Complete★	151	320	CCAJ \$55.20	152	350	CCFJ \$60.00	153	375	CHIJ \$64.80
Flask Attachments, Single Core★	154	125	JIFJ 16.00	155	140	AJBj 17.00	156	155	AADJ 19.00
Flask Attachments, Double Core★	154D	125	JIFJ 16.00	155D	140	AJBj 17.00	156D	155	AADJ 19.00
Four Inch Course Block Attachments★	157	55	JGBJ 12.00	158	65	JGHI 13.00	159	75	JHDJ 14.00
Four Inch Course Dividing Plates★	1510	8	EG .96	1511	9	EG .96	1512	10	EG .96
Octagon Bay Window Attachments★	1513	60	CGE 6.24	1514	66	DBJ 7.00	1515	72	DHJ 8.00
Circle Bay Window Attachments★	1516	35	CAE 5.40	1517	40	CDE 5.70	1518	45	CFJ 6.00
Extra Face Plates, any design★	1519	18	ACJ 2.16	1519	18	ACJ 2.16	1519	18	ACJ 2.16
Extra End Plates, any design★				1521	10	JFE 1.08	1522	11	JGE 1.20
†Silo Block Attachments, Rock Face, diam. 14 ft.★	1520	9	JFE 1.08	1524	110	AAHJ 19.80			
Extra Tampers, size Head 2½x2½ in., size Wedge 2½x½ in.★	151½	5	JIJ 1.50	151½	5	JIJ 1.50	151½	5	JIJ 1.50

*Note. We always ship Rock Face unless otherwise ordered with every machine or attachment.

†For Circular Bay Window and Silo Attachments always specify whether 6, 7 or 9 foot radius is desired.

★FOR FACTORY SHIPMENT ONLY.

SUPPLEMENTARY ATTACHMENTS FOR "LEADER" AND "IMPROVED" BLOCK MACHINES.

Prices and Sizes Shown Under Each Machine, Pages 198C and 198D.



Four Inch Course Block Attachment—Heavy gray iron, consists of two face plates, two end plates, two center dividing plates and four small sectional dividing plates. Plate "A," with division plate "D" and four sectional plates "F" will make two blocks 8 in. long, 4 in. high, and four blocks, 4 in. long and 4 in. high at one time. The division plates slip into the mould in the position in which they are shown in the illustration.



Four 4 in. and Two 8 in. Blocks made at one time.

Face plate "B" with special core dividing plate "E" will make two blocks 16 in. long, 4 in. high at one time, with special core centers.

Core ends "C" are slotted, to permit of inserting the division plates and also to hold them absolutely vertical.

Face Plates—We can furnish Plain, Rock, Panel, and Tooled Face Plates.—See page 200A. Unless otherwise specified, we ship Rock Face.



Octagon Bay Window Attachment—Heavy gray iron, consists of face plate "A," 12 in. long, face plate "B" 4 in. long, and stop-off plate "C," which is 8, 10, or 12 in. long according to the size of the machine.

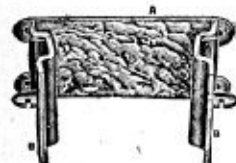
This Attachment is adjustable by means of a set screw located on face plate "A" to any angle from 30 to 80 degrees, making it necessary blocks for any bay window.

Face Plates—We can furnish this attachment in Rock and Panel Faces. Unless otherwise specified, we ship Rock Face.



Octagon Bay Window Block.

Inside Angles—This attachment does not make inside angle blocks. No attachment is necessary for this purpose at the proper shape blocks can be made with the gable dividing plate, furnished free with each machine. See page 200 for cut of inside corner bay window block.

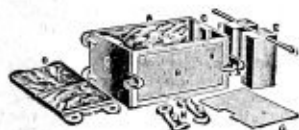


Circle Bay Window Attachment—Consists of circular face plate "A" and two core ends "B." Can be furnished for 6, 7, 8, or 9 ft. radius. The two core ends are held at the proper angle by special lugs which are longer than those furnished on the regular machine.

Face Plates—We can supply Rock face design only. Always state radius of circle wanted.



Circle Bay Window Block.



Silo Block Attachment—Consists of face plates "A" and "B," two end plates "C," back plate "D," special center cores "E," Dove-tailed end cores "F," dividing plate "G" and Rocker bearings "H."

When attached to machine, the rocker bearings "H" are substituted for those on the regular machine. Face plate "A" or "B" is then fastened to the Rocker bearings, then cores "F" placed, back plate put into position, and locked by means of the end levers. Face plate "B" and dividing plate "G" are for making two half size blocks. Dove-tail end cores "F" are withdrawn by means of small hooks, and center cores are simply lifted out.



Dove Tail Silo Block.

Face Plates—We can furnish Rock Face design only.

Diameters—We can furnish attachments for 12, 14, 16 and 18 ft. diameter. Always state diameter desired.



Single Core, Double Core.

Flask, or Mould, Attachment—Heavy gray iron, furnished with either single or double core. Consists of core plate "A," end cores "B," sample wool pallet "C," two end levers "D," special center cores "E" and levers "F" for holding the cores in position. For the 'Improved' Machine, a special core plate is furnished for attaching to the levers. As the same face plate is used for all size blocks, no face plate is furnished with extra flask attachment. Everything is provided to make entire change from one size block to another. Two Rock face End Plates are furnished, as these vary with the size of the block.

FOR PRICES, SEE LIST UNDER EACH MACHINE.

STYLES OF REGULAR CONCRETE BUILDING BLOCKS

The Regular Outfit Furnished with Each Block Machine Will Make all of the Following Blocks.



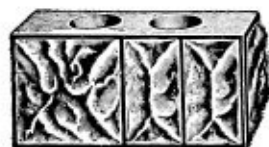
16 inch Deep Rock.



8 inch Deep Rock.



4 inch Deep Rock.



16 inch Broken Ashler.



12 inch Broken Ashler.



8 inch Broken Ashler.



Joist Block.



Gable Block.



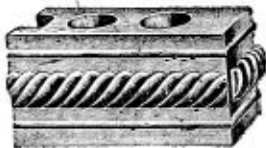
Inside Corner Bay Window Block.

STYLES OF SPECIAL CONCRETE BUILDING BLOCKS.

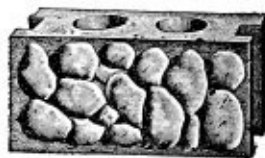
Can Furnish Supplementary Face Plates in any of the following Designs at a Slight Additional Cost for Any Block Machine on page 198C and 198D.



Whirlwind Scroll.



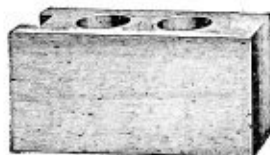
Rope.



Cobblestone.



Tooled Margin Rock.



Plain.



8 inch Tooled Margin Block.

ALWAYS ORDER BY NUMBER, GIVING BOTH NUMBER OF FACE PLATE AND NUMBER OF BLOCK MACHINE.

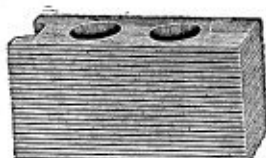
Prices shown under each block machine, page 198C and 198D.

STYLES OF SPECIAL CONCRETE BUILDING BLOCKS.

We Can Furnish Supplementary Face Plates in any of the following Designs at a Slight Additional Cost for any Block Machine on pages 198C and 198D.



Style A. Broken Ashler.



Tooled Face.



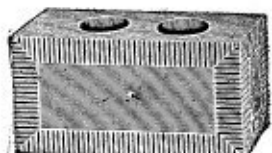
Medium Rock.



Style B. Broken Ashler.



Inside Corner.



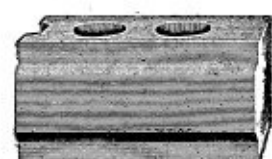
Tooled Margin Bushhammer.



4 inch Panel.



Deep Rock.



Water Table.



4 inch Rock Ashler.



8 inch Panel.



Style C. Broken Ashler.



Panel.



Style D. Broken Ashler.



8 inch Rope.

ALWAYS ORDER BY NUMBER, GIVING BOTH NUMBER OF FACE PLATE AND NUMBER OF BLOCK MACHINE.

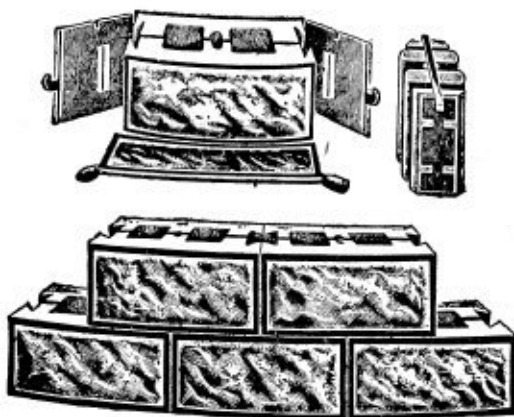
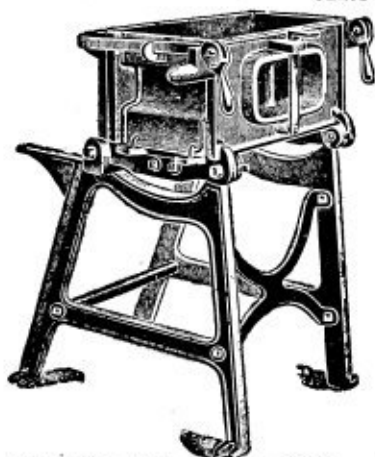
Prices shown under each block machine, pages 198C and 198D.

CONCRETE MACHINERY.

DOVETAIL SILO BLOCK MACHINES.

Either Mounted or Unmounted.

Make Triple Reinforced Silos. Every Block and Every Tier Firmly Bound Together. Concrete Silos are Endorsed by United States Department of Agriculture.



View of Silo Blocks.

Construction—Heavy gray iron, 22 inches high, base 18x23 in. Frame strongly braced. Face plates made of close grained castings.

Machine consists of base and flask. Flask consists of face plate, back plate, two end plates, two dove-tail end cores, two special center cores. End plates are attached to the face plate, which is attached to rocker bearings. These bearings are fastened to the frame and are for the purpose of swinging the plates backward. The back plate—nearest the operator—is fastened in place by means of two end latches, attached to the end plates.

Outfit—We furnish the following outfit free with each machine—

- No. 1—One rock face plate for full size blocks.
- No. 2—One rock face plate for half size blocks.
- No. 3—Dividing plate for half size blocks.
- No. 4—Special center cores.

- No. 5—Special dovetail end cores.
- No. 6—Striker for leveling the top of the mold.
- No. 7—Double end tamper.
- No. 8—Sample wood pallet.

Cores—This machine is made with double cores. The end cores are "dovetail" shape and slip into notches on the end plates. Special center cores are furnished with a small round core between the two larger ones.

Extra Flasks—We furnish this machine for making two sizes of blocks, either 8x9x16 or 8x10x16 in. for the mounted machines and 8x9x16 in. for the unmounted machines, or can furnish extra flasks for changing one size machine to another. We can also furnish flask attachment for changing this machine into oblong block machine. This attachment would consist of complete outfit as furnished with the Leader block machine—page 138E—with the exception of the base.

Pallets—Plain wooden pallets are used with the mounted machine. With the unmounted machine no pallets are necessary, as the blocks can be made on any smooth floor or surface. Wooden pallets can easily be made by any one, by cutting common lumber to the proper size and nailing cleats on the back. A sample pallet is furnished with each machine.

Diameter of Silos—We can furnish machines to make blocks for any of the following diameters—12, 14, 16, and 18 foot. Size depends largely on the number of cattle that are to be fed. The silo should be small enough so that a complete layer will be taken from the top each day. Always state the diameter desired.

Concrete Silos are Best—Concrete has been put to the test and is the best material to be found for this purpose. Wood decays, iron is expensive and soon rusts and stone is too expensive. Concrete will not warp, will not rot from the acid in the ensilage, needs no repairs and is everlasting. Wood silos are undesirable, because they warp and shrink during the hot summer months, requiring frequent tightening of the hoops to avoid collapse. A first-class complete concrete silo, including the roof, can be made for \$225.00 to \$250.00, 16 feet in diameter and 30 feet high. The first cost of such a silo is the last cost, and furnishes a fire-proof structure in every way.

Instructions—The operation of this machine is practical as well as rapid and easy. After the machine is closed and locked, the cores are placed and the mold is filled, tamped and leveled off. The center cores are removed by grasping the lever to which they are attached and drawing them upward. The cores are slightly tapered to permit of easy removal. The dovetail end cores are removed by drawing them out with hooks provided for that purpose.

Principle—The object of the dove-tail cores, is to form a wall which will be sufficiently strong to withstand the lateral strain which is quite severe in any silo. The illustration of the blocks above will show how these dovetails come together. When the blocks are laid, these openings are filled with soft cement, which makes a continuous circular wall. When one tier of blocks is laid on another, this dovetail opening comes just above the small round opening in the center of the block below. When this is filled with soft cement, it makes a solid wall of the entire structure, firmly binding all blocks together, as well as every tier. Each block has a small groove across the center of the top. This space is for the purpose of inserting reinforcing wires. The lateral strain is so great in a 30-foot silo, 330 pounds to the square foot, that it is advisable to reinforce every two or three layers of blocks. This is accomplished by using two strands of No. 9 twisted galvanized wire, placing it in the grooves and drawing it up taut.

With each machine we furnish free "Silo Plans and Specifications" so that any one can make a concrete silo at his own convenience and with his own help. We also furnish a book of instructions which explains carefully all of the steps necessary to make good concrete.

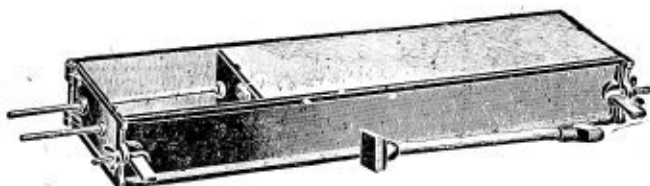
For Blocks, Sizes,	8x9x16 in.			8x10x16 in.		
	No.	W't	Price	No.	W't	Price
Silo Block Machine, Mounted.....	231	160	AB IE \$21.60★	234	165	ACC J \$22.20★
Extra Face Plates, Plain or Rock design.....	232	15	AH J 3.00★	233	15	AH J 3.00★

★FOR FACTORY SHIPMENT ONLY.

CONCRETE MACHINERY.

ADJUSTABLE SILLS AND CAP MOULDS.

For Making Sill Caps, Lintels, Steps, Water Table Blocks, Slabs, Etc.



Construction—Gray iron castings, reinforced at all joints and edges. Mould is 5 ft. long and 16 in. wide. Consists of front plate, back plate, two end plates, one stop off plate and two stop off rods, three feet long. Face plate is fastened to the end plates by means of thumb screws. End plates are hinged to the back plate. Both end plates have notches at the top and bottom into which the face plate is set for the different widths. The left end plate has two holes through which the adjustable rods pass and can be set to any length by means of a collar and set screws on the inside. Special tamper furnished with each machine. Mould is adjustable to three different widths, 10, 12 and 14 inches, and 8 inches high. Also adjustable to any length from 2 to 5 ft.

Extra Face Plates—Unless otherwise specified, we furnish plain face, but can furnish any of the following designs at a slight additional cost, or any one of them free, in place of the regular plain face.

No. 1—Rock face with tooled margin.

No. 2—Horizontal tooled face.

No. 3—Bushhammer face with tooled margin.

No. 4—Vertical tooled face.

No. 5—Panel face.

No. 6—Whirlwind scroll.

Reinforcing—It is advisable to use reinforcing for steps, slabs, etc., where they bear considerable weight. In an open mould of this kind, the reinforcing is very easily placed. Woven wire, angle iron, chains, old rods, and material of like nature, laid lengthwise, can be used.

No. 291 —Adjustable sill and cap mould, complete, w't 170 lbs.★each ABFJ \$21.00

No. 292 —Extra face plates, styles 1 to 6, w't 55 lbs.★each DCJ 7.20

No. 292½ —Extra tampers, 4½x4 in. head, 4x1 in. wedge end, w't 10 lbs.★each AEJ 2.50

WELL CURBING MOULDS.

Suitable Also for Making Supply and Water Tanks, Keeps the Water Pure and Sweet, Prevents Caving and is Everlasting.

Construction—Heavy gray iron. Mould consists of front and back plate, circle end and key end. The two ends are hinged to the back plate and the face plate is fastened by means of two latches.



Pallets—No pallets are required. When desired, pallets may be used. smooth floor or other surface, as the blocks can be made on any. These are made of common lumber, cut to the proper size, with cleats on the back to prevent warping.

Sizes—We can furnish any of the sizes, diameters, shown below. It will be noticed that the length varies for the different diameters. The purpose of this is to have blocks of the proper length, to avoid the necessity of using fractional size blocks to complete the circle. Plain face blocks only can be made.

Principle—The blocks are made with one circle end and one key end. When these are laid together a small space is left for mortar, and when this is filled, the curb will stand a very great lateral strain.

Instructions—With each mould we furnish instructions as to the proper method of mixing and making concrete which explain also the process of making these blocks. Everything is provided so that the blocks can be made by anyone.

Prices on Well Curbing Moulds.

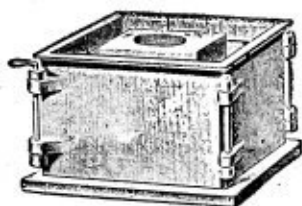
No.	Diam.	Length	Height.	Thickness.	lbs. W't.	Price.
371	3 ft.	14 in.	7¼ in.	3½ in.	50	DAJ \$6.80★
372	4 ft.	14 in.	7¼ in.	3½ in.	56	DBE 7.10★
373	6 ft.	14 in.	7¼ in.	4½ in.	62	DEE 7.60★
374	8 ft.	16 in.	7¼ in.	4½ in.	75	EJJ 8.30★



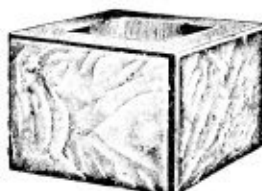
★FOR FACTORY SHIPMENT ONLY.

CONCRETE MACHINERY.

CHIMNEY, PIER OR GATE POST MOULDS.



Showing Mould with Core in Position.



Showing Finished Block.

Suggestion for Chimney,
Showing Various Designs
of Faces.

Construction—The moulds are made of heavy gray iron castings, nicely fitted together with hinges on one side and levers on the other. A core is furnished with each mould, slightly tapered to permit of easy removal.

Pallets—Plain wooden pallets are used. Common lumber of good thickness with cleats nailed on the back answers for this purpose. These blocks can be made on any smooth floor without the use of pallets.

Chimney Blocks—Concrete is, without doubt, the best material for chimney blocks, standing intense heat without cracking. It is safer and cheaper than brick.

Piers—For pier blocks this mould is unsurpassed. Pier blocks when made of concrete can be laid in damp earth with every assurance that the dampness will not affect them in any way. The blocks can either be made hollow or solid.

Gate Posts—Combined with our fancy ball mould some very handsome gate posts can be produced and the effect will be everything desired.

Porch Columns—For porch columns, a mould of this kind is indispensable. Our rock face designs are especially recommended. They are deep cut and have every appearance of cut stone.

Designs—We can furnish 8 in. in Rock Face only, 10 in. in Rock or Panel Face, 12 in. in Rock, Panel or Plain Face, and 14 and 16 in. in Rock, Panel, Plain or Brick Face.

Pier and Ball Moulds Make
Fine Looking Gate Posts.

WE SHIP ROCK FACE UNLESS OTHERWISE SPECIFIED.

	Size.	Height.	Core.	Weight.	Each.		Size.	Height.	Core.	Weight.	Each.
No. 3710	8x8 in.	7 3/4 in.	4x4 in.	35 lbs.	CIE \$6.60★	No. 3713	14x14 in.	7 3/4 in.	7x7 in.	60 lbs.	DGJ \$7.80★
No. 3711	10x10 in.	7 3/4 in.	5x5 in.	44 lbs.	DCJ 7.20★	No. 3714	16x16 in.	7 3/4 in.	8x8 in.	70 lbs.	DGE 8.64★
No. 3712	12x12 in.	7 3/4 in.	6x6 in.	55 lbs.	DEJ 7.50★						

FANCY BALL MOULDS.

Concrete Ball Moulds have done much to add to the harmony and pleasing effect of concrete construction. This design is one which lends itself readily to many varied purposes. The moulds are of the best gray iron, cast in four sections and are bored to templates so as to fit evenly and to draw well.



Fancy Ball.

	Diam. of Base.	Diam. of Ball.	Total Height.	Weight.	Each.
No. 441	12 in.	9 1/2 in.	12 in.	60 lbs.	JH4J \$13.50★
No. 442	14 in.	11 in.	14 in.	75 lbs.	J11J 15.00★

★FOR FACTORY SHIPMENT ONLY.